REMARKS

In the last Office Action, claims 1-3 were rejected under 35 U.S.C. §102(b) as being anticipated by U.S. Patent No. 3,805,421 to Kamlukin et al. ("Kamlukin"). Claim 5 was objected to as being dependent upon a rejected base claim and was otherwise indicated to be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. Claim 4 was allowed.

In accordance with this amendment, claim 1 has been amended to further point out the novelty of the present invention, and dependent claim 3 has been amended to conform to amended claim 1. Allowable dependent claim 5 has been rewritten in independent form to incorporate the subject matter of base claim 1, thereby placing claim 5 in allowable form. The specification has been revised to provide a literal antecedence for the amended claim language.

As explained in more detail hereinafter, the minor claim amendments made herein do not raise a new issue that would require further search or consideration. Instead, independent claim 1 has been amended to avoid a strained reading of Kamlukin on the claim and as amended, claim 1 clearly patentably distinguishes over Kamlukin. Therefore entry and consideration of this amendment are most respectfully requested.

The present invention pertains to a snow removal machine having a novel blower construction for efficiently and reliably throwing-up or discharging snow through a chute even when the snow contains stones or other foreign matter that tend to lodge between the blower blades and the blower housing.

As shown in the embodiment of Figs. 1-5, the blower 40 comprises a plurality of supporting members 55 having linear distal end portions 68 inclined in a direction opposite to the direction of rotation of the blower, and a plurality of resilient elastically deformable throwing-up blades 56 attached at their proximal end portions to respective ones of the supporting members 55 in the vicinity of the inclined linear distal end portions 68 of the supporting members 55. As shown in Figs. 2-3, the inclined linear distal end portions 68 of the supporting members 55 and the corresponding blade bodies 72 of the throwing-up blades 56 define therebetween generally triangular spaces which allow the throwing-up blades 56 to undergo bending only about the proximal end portions thereof while keeping the blade bodies 72 free from deformation until they contact the inclined linear distal end portions 68 of the support members 55. This is shown, for example, in Figs. 5A-5D.

Figs. 6-8 show another embodiment of a blower 90 in which the inclined distal end portion 96 of each supporting member 91 is formed in a downward slope from a rear side edge to a front side edge, or vice versa, so that after the blade body of each throwing-up blade comes into contact with the inclined distal end portion 96 of the corresponding support member 91, the front side edge or the rear side edge of the blade body is elastically deformed in a twisted state about the downward slope of the inclined distal end portion 96 in the direction opposite to direction of rotation of the blower. The twisted state of the front or rear side edge of the blade body is shown, for example, in Fig. 9(d).

Amended independent claim 1 clearly patentably distinguishes over Kamlukin. Claim 1 recites that the blower has supporting members having linear distal end portions inclined in a direction opposite to a direction of rotation of the blower, that the resiliently deformable throwing-up blades have proximal end portions attached to the respective supporting members in the vicinity of the inclined linear distal end portions thereof and blade bodies extending radially outward from the respective proximal end portions, and that each of the inclined linear distal end portions of the supporting members and a corresponding one of the blade bodies of the throwing-up blades define therebetween a

generally triangular space so as to allow the throwing-up blade to undergo bending only about the proximal end portion thereof while keeping the blade body free deformation until the blade body comes into contact with the inclined linear distal end portion of the supporting member. No similar structure is disclosed by Kamlukin.

Kamlukin discloses a snow blower having a paddle wheel impeller 15. The impeller 15 has blades 16 of rubber-like material and rigid curved supporting members 23 disposed behind the respective blades 16 and curving rearwardly away from the rear faces of the blades 16. As shown by a dash-and-dot line in Fig. 2, when the body of a blade 16 is subjected to an undue load, such as a stone becoming wedged between the blade and a wall of the blower chamber 14, the major part of the blade is free to flex rearwardly, and the blade 16 progressively bends until it assumes a rearwardly curved configuration corresponding to that of the curved outer portion 26 of the supporting member 23. When the blade 16 becomes elastically deformed in this manner, its ability to carry and throw up snow into the chute becomes impaired.

Amended independent claim 1 specifies that the inclined distal end portions of the supporting members have linear (straight) shapes and that the throwing-up blades undergo bending only about the proximal end portions thereof

while keeping the blade bodies free from deformation until they come into contact with the inclined linear distal end portions of the supporting members. By contrast, in Kamlukin, the supporting members 23 have curved (not linear) distal end portions, and the throwing-up blades undergo bending throughout the length of the blade bodies (not only about the proximal end portions thereof) while keeping the blade bodies free from deformation until they come in contact with the inclined distal end portions of the supporting members. In Kamlukin, the proximal end portions of the supporting members 23 have a linear shape whereas the distal end portions of the supporting members 23 have a curved shape. Amended claim 1 requires that the distal end portions of the supporting members be straight, a limitation that is lacking in Kamlukin.

As pointed out in the prior response, it would not have been obvious to one ordinarily skilled in the art to modify Kamlukin to arrive at the claimed invention. As stated in Kamlukin, a significant feature of the Kamlukin invention resides in forming the blades 16 of resiliently flexible material (column 3, lines 55-58) and providing the supporting members 23 with a radially outer portion 26 that curves rearwardly away from the normal plane of the rear face of the blade 16 for performing the "very important function of

controlling the flexing of the blade" (column 4, lines 6-13). The curved radially outer portion 26 of the supporting members 23 has a radius of curvature large enough to insure that no portion of the blade material would be stressed excessively when the blade is flexed to the maximum extent "that the backing member permits" (column 4, lines 33-46). Thus the flexibility of the throwing-up blades 16 in conjunction with the curvature of the supporting members 23 are indispensable in Kamlukin. The throwing-up blades 16 are purposefully designed to undergo elastic deformation throughout their length and hence, one skilled in the art would not have found it obvious to modify Kamlukin to prevent the blade bodies from undergoing deformation, in the manner recited in claim 1.

The minor amendments made to claim 1 make more explicit the features previously recited and argued as being patentably distinct from Kamlukin. As noted above, regardless of any teaching that may be afforded by secondary references, Kamlukin quite clearly teaches away from forming the distal end portions of the supporting members 23 in a straight shape rather than a curved shape. Therefore no further search or consideration is needed to access patentability of claim 1. Applicant therefore respectfully requests entry of this amendment.

Claims 2-3 depend on claim 1 and are therefore patentable over the Kamlukin for at least the same reasons as expressed above with respect to claim 1. In addition, claim 3 includes the limitation that "a front side edge or a rear side edge of the blade body is elastically deformable in a twisted state" about the downward slope of the inclined distal end portion. The Examiner has not addressed this limitation in the rejection of claim 3, and it is clear that Kamlukin does not disclose that the throwing-up blades 16 are elastically deformable in a twisted state in the manner required by claim 3.

Allowable dependent claim 5 has been rewritten in independent form to incorporate the subject matter of base claim 1, thereby placing claim 5 in allowable form.

In view of the foregoing, the application is now believed to be in allowable form. However, should the Examiner determine that something further need be done, it is respectfully requested that he contact the undersigned attorney at the below-listed number whereupon any outstanding matter will be promptly attended to.

In view of the foregoing, favorable reconsideration and entry of this amendment together with allowance of the claims are respectfully requested.

Respectfully submitted,

ADAMS & WILKS
Attorneys for Applicant

By: _____
Bruce L. Adams
Reg. No. 25,386

17 Battery Place
Suite 1231
New York, NY 10004
(212) 809-3700